

REMARKS/ARGUMENTS

In response to the Office Action dated December 19, 2005, claims 6-8 are cancelled and claim 19 is added. Claims 1-5 and 9-19 are now active in this application.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 103

Claims 1-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Turk et al. (Zipper Polygon Meshes From Range Images).

The rejection of claims 1-5 and 9-18 is respectfully traversed.

Claim 1 recites, inter *alia*:

a second step of adjusting size of a first group of polygons including the edge of the portion that becomes the boundary based on the length determined in the first step, and of adjusting size of a second group of polygons other than the first group of polygons so that an adjustment ratio is smaller as a distance between a position of each of the second group of polygons and the portion that becomes the boundary is greater, each of the first and second groups of polygons being part of polygons structuring the first mesh and of polygons structuring the second mesh...

The second step recited in claim 1 describes how to adjust the first group and the second group of polygons. The Examiner refers to 4.2, 4.3 and 4.4 of Turk et al.'s paper as disclosing this subject matter. However, chapter 4 (which includes 4.2, 4.3 and 4.4) of Turk et al.'s paper describes just how to register two meshes and does not refer to the adjustment of polygons. Thus, the second step recited in claim 1 is not disclosed in Turk et al.'s paper.

With regard to making make the adjustment ratio smaller as a distance between a position of each of the second group of polygons and the portion that becomes the boundary is greater, the Examiner refers to the iterated closest point method and a part of the abstract of Turk et al.'s paper and states that the adjustment process, in the second step of claim 1, is obvious. However,

the iterated closest-point method is just for registering two range images and is not for the adjustment of polygons (see 4.1, 4.2 and 4.3). In this regard, the first line of section 4.3 reads, "The heart of the iterated closest-point approach is in finding a rigid transformation that minimizes the least-squared distance between the point pairs."

Furthermore, Fig. 5 shows that the only polygons of the edges of the boundary between two meshes are adjusted, and Turk et al.'s paper does not mention a problem of only those polygons being adjusted or a solution of the problem. In contrast, the specification of the present application describes that if two meshes having different density from each other are merged with only polygons including the edges of the boundary between two meshes adjusted like Fig. 5, a polygon image obtained by merging meshes appears unnatural ([0008] and Fig. 7B of the present application). An object of the present invention is to avoid such an unnatural appearance (page 3, line 1-4 of the present application). In addition, the embodiment of the present invention solves the problem by merging two meshes whose density is different from each other in such a manner that the polygons structuring the meshes are similar to each other in size in the vicinity of the boundary between the meshes, and have smaller adjustment ratios when far away from the boundary ([0062] and Fig. 5 of the present application).

Independent claims 9 and 14 each have similar recitations as the second step of independent claim 1. More specifically, independent claim 9 recites, *inter alia*:

a polygon adjustment portion for adjusting size of a first group of polygons including the edge of the portion that becomes the boundary based on the length determined by the edge length determination portion, and for adjusting size of a second group of polygons other than the first group of polygons so that an adjustment ratio is smaller as a distance between a position of each of the second group of polygons and the portion that becomes the boundary is greater, each of the first and second groups of polygons being part of polygons structuring the first mesh and of polygons structuring the second mesh...

and independent claim 14 recites, *inter alia*:

a second processing of adjusting size of a first group of polygons including the edge of the portion that becomes the boundary based on the length determined in the first processing, and of adjusting size of a second group of polygons other than the first group of polygons so that an adjustment ratio is smaller as a distance between a position of each of the second group of polygons and the portion that becomes the boundary is greater, each of the first and second groups of polygons being part of polygons structuring the first mesh and of polygons structuring the second mesh...

Since Turk et al. does not disclose or suggest the above noted features of independent claims 1, 9 and 14, independent claims 1, 9 and 14 are patentable over Turk et al., as are dependent claims 2-5, 10-13 and 15-18.

To expedite prosecution, claims 6-8 are cancelled and new method claim 19 is submitted. New method claim 19 delineates how to adjust polygons. The third step of claim 19 is described in [0043] of the present application while the forth step is described in [0047] of the present application. Claim 19 is patentable over Turk et al. for similar reasons as to why independent claims 1, 9 and 14 are patentable over Turk et al.

CONCLUSION

Accordingly, it is urged that the application, as now amended, is in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, Examiner is requested to call Applicants' attorney at the telephone number shown below.

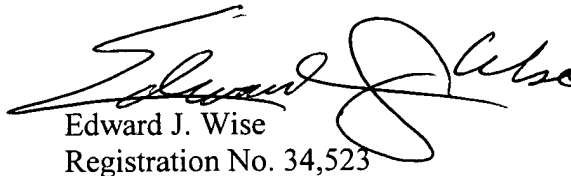
To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

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including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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